

*A31*  
*contd*

configuration covering the width of the area specified in one direction from left to right while constantly traveling through several different planes, for example, but not limited to, within the range of .5 inches to 36 inches in height from the airport runway surface 3.

**IN THE CLAIMS:**

Please amend claims 1, 20, 28, 34, 38 and 41 as follows:

1. (Amended) An apparatus for detecting objects on an airport runway, comprising:  
an optical system comprising at least one transmitter located at a first location and at least one receiver located at a second location corresponding to the transmitter;  
an object location processor operably linked to said optical system;  
an object characterizer operably linked to said object location processor;  
an alarm activation processor operably linked to said object characterizer;  
an alarm generator operably linked to said object characterizer; and  
a user interface operably linked to said alarm generator.

*A32*

20. (Amended) An apparatus for detecting objects on an airport runway comprising:

an optical system comprising at least one transmitter located at a first location and at least one receiver located at a second location corresponding to the transmitter;

wherein said optical system further comprises one or more optical transmitters and one or more optical receivers; one or more optical transceivers and one or more optical reflectors; or a combination of optical transmitters/optical receivers and optical transceivers/optical reflectors;

*a33*  
*cont.*

an object location processor operably linked to said optical system; an object characterizer operably linked to said object location processor; an alarm activation processor operably linked to said object characterizer; an alarm generator operably linked to said alarm activation processor; and a user interface operably linked to said alarm generator.

28. (Amended) An apparatus for detecting objects on an airport runway comprising: an optical system;

*a34*  
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wherein said optical system further comprises  
one or more optical transmitters located at a first location and one or more optical receivers located at a second location; or

one or more optical transceivers located at a first location and one or more optical reflectors located at a second location;

or a combination of optical transmitters/optical receivers located at a first location and optical transceivers/optical reflectors located at a second location reflectors;

an object location processor operably linked to said optical system;

wherein said object location processor further comprises one or more selected from the group consisting of an intrusion sensor detection system, an operation sensor detection system, and an output inspector diagnostic system;

*a34*  
*contd.*

an object characterizer operably linked to said object location processor;

wherein said object characterizer further comprises a motion detection processor;

an alarm activation processor operably linked to said object characterizer;

an alarm generator operably linked to said alarm activation processor; and a user interface operably linked to said alarm generator.

*a35*

34. (Amended) An apparatus for detecting objects located on an airport runway surface comprising:

- a) one or more optical laser transmitters located at a first location and one or more optical laser receivers located at a second location;
- b) one or more optical laser transceivers located at a first location and one or more optical laser reflectors located at a second location; or
- c) any combination of a) and b);

for sensing the presence of objects on an airport runway surface.

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*contd.*

38. (Amended) A method for detecting objects on an airport runway comprising:

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- a) detecting the presence of an object on an airport runway by the object's interruption of one or more optical laser beams generated by an optical system comprising at least one transmitter located at a first location and at least one receiver located at a second location corresponding to the transmitter;
- b) processing the output from the optical system to determine the location of the object on the runway;
- c) transmitting the information regarding the object to appropriate personnel.

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41. (Amended) A method for detecting objects on an airport runway comprising:

- a) detecting the presence of an object on an airport runway by the object's interruption of one or more optical laser beams generated by an optical system comprising at least one transmitter located at a first location and at least one receiver located at a second location corresponding to the transmitter;
- b) processing the output from the optical system to determine the location of the object on the runway;
- c) processing the output from the optical system to determine the type of object on the runway;
- d) processing the output from the optical system to determine the appropriate degree of danger posed by the presence of the object on the runway;

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A37  
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e) transmitting the information regarding the object to a user interface.

Please add the following claims 42 and 43.

42. (New) An apparatus for detecting objects on an airport runway, comprising:  
an optical system comprising at least one transmitter located at a first location and at least one receiver located at a second location corresponding to the transmitter;  
a processor operably linked to said optical system, wherein said processor is adapted to locate one or more objects, characterize one or more objects, activate one or more alarms, and generate one or more alarms; and  
a user interface operably linked to said processor.

43. (New) An apparatus for detecting objects on an airport runway, comprising:  
an optical system comprising at least one transmitter located at a first location and at least one receiver located at a second location corresponding to the transmitter;  
a processor operably linked to said optical system, wherein said processor further comprises means for:

locating an object;  
characterizing an object;

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